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ORIGINAL COMMUNICATIONS.

ART. I.—*Some Account of a Fever produced by the Decomposition of Potatoes.* By F. K. BAILEY, M.D.

No subject connected with medical science has excited more interest than that of fevers. The only apology for the appearance of this article, is the thought that it may add a little to the stock of facts in reference to fever produced by local causes.

It is proposed, in this communication, to give a description, as well as may be, of a disease which commenced in this place, in the Autumn of 1846. Up to this time, from the first settlement of the town, the diseases in this region were of the same character as those usually met with in newly-settled places in the West. The country is generally level, and well timbered with beach, maple, oak, &c.

During the Summer of 1846, there was erected in this village a large building, to be used in the manufacture of potatoe starch. The farmers, within five miles in each direction, contracted to produce potatoes, and draw them to the factory. As soon as the middle of October, there were delivered and deposited in one reservoir, about thirty thousand bushels. The machinery for grating not being in readiness as soon as was expected, this amount of potatoes laid some two or three weeks. The weather being warm, the whole mass soon began to rot. A small proportion of them

were diseased when drawn, but they were generally in a sound condition. As soon as it could be done, the pile was overhauled, and not far from twenty thousand bushels removed into the yard in front of the mill. This mass was some three or four rods in extent each way, and four to five feet deep in the centre. The smell emanating from this offensive heap of vegetable matter was almost intolerable.

The fevers during the Summer and the first of the Fall months, had been of a milder type than usual, yielding to proper treatment in a few days. During the months of November and December, a typhoid tendency could be perceived in every case that occurred. It was evident that some modifying cause was operating. One man, who was engaged in removing potatoes from the mill, was attacked with a remitting fever; but about the seventh day, congestion of the brain set in, and he soon died. This case will be alluded to again.

Another case was that of a young lady, who had spent the Summer some six miles from the village, in a neighborhood where fevers of the common type were prevalent, and had during the time an attack of remittent, but partially recovered before returning home. In the fore part of November she was taken with a relapse, in which the disease assumed a typhoid form. This case will also be referred to again.

During the fore part of December many cases of fever occurred, assuming a continued form, and none of the common type. As I took no notes at the time, it will be impossible to give in detail all the appearances in any one case, but will endeavor to describe, in general, most of the symptoms characterising a majority of the cases.

The disease seldom commenced abruptly with a chill, but the patient complained of an uneasy sensation in the head, back, and limbs. Many, in describing their feelings, said they thought they should have the ague. There were languor and lassitude, no distinct chilliness, but an inclination to draw up to the fire, and an indisposition to exertion either physical or mental. The tongue was found to be coated with a whitish fur, there was a disagreeable taste in the mouth, and the breath was foetid. The state of things just described, continued sometimes a week; but generally the

disease became confirmed in five or six days. Usually, at the expiration of this forming stage, a chill more or less distinct would usher in the disease, after which no more coldness would be experienced. At other times, the alternate cold and heat would gradually give place to continued heat and excitement, rendering it difficult to ascertain the exact time to date the outset.

The pulse was frequent, with an occasional exception ranging from 100 to 140, or more, in a minute. The respiration was also increased in frequency, in about the same ratio as that of the pulse.

The functions of the stomach were not much deranged, beyond an impairment of the appetite. There was generally a looseness of the bowels, or an increased susceptibility to the action of laxatives. Sometimes the alvine evacuations were natural in frequency, with but little appearance of diarrhœa. Hæmorrhage from the nose was a frequent occurrence, in cases attended with increased redness of the face, and headache. The pulse was generally uniform in frequency during the twenty-four hours, although there was occasionally a remission in the morning and sometimes in the evening, and even one in the night.

The muscular strength, frequently, not only in the milder cases, but also in some of those of a graver form, was not as much impaired as in our common fevers. With the exception of the head, no part was severely affected by pain. A tendency to drowsiness was common, more or less, in every case; at times, however, there was so much restlessness as to prevent sleep. There was more or less tenderness on pressure over the epigastrium and the right iliac region. A tympanitic state of the abdomen was common, varying according to the state of the alimentary canal. The tongue, as the disease advanced, became more coated at the base, but red at the tip, which would sometimes feel a little sore. Thirst was not intense, but there was a dryness in the mouth and fauces, requiring a small draught of water at short intervals.

The skin was generally dry and hotter than natural, but sometimes covered with a cool sweat. There was a peculiar pallid appearance to the countenance, with an extremely anxious look. The urine was not always diminished in quantity, but generally redder in color, and, after standing a short time, emitted an offensive odor.

The above are many of the appearances seen during the first seven days after the accession of the disease. On the eighth day, however, there was found to be an aggravation of all the symptoms which had characterised the first period. The patient became more drowsy. The tongue became dry, or darker colored, or deep red. Heat and dryness of the skin increased, or in cases attended at first with moisture, the sweating was more profuse. Pulse still frequent, and quicker in its beat. Patient weaker, and less inclined to exertion. Frequently complained of no pain, and on being asked how he felt, would reply, "Better," or "Not much sick." Less inclined to take nutriment, and calls for drink more seldom, not so much from absence of thirst, as a want of appreciation of his condition. Distended state of the abdomen continues, but in an aggravated degree; and, in cases, attended at the outset with looseness, the diarrhoea becomes frequent and troublesome. The urine darker colored and more scanty. Seldom any vomiting or even nausea. Subsultus commences in the worst cases, and sometimes spasmodic contractions in the body and limbs. Delirium or stupor now supervene. Deafness is almost an unfailing attendant, but occasionally the hearing was morbidly acute.

In many cases the rose-colored eruption made its appearance upon the neck and other parts of the body, about the tenth day, but it was not an unfailing attendant.

With these appearances, we found the patient at the close of the second week from the attack. In many cases, on or near the fourteenth day a crisis would take place, the symptoms becoming more favorable, and convalescence commencing from that time. If the disease continued longer than two weeks, all the appearances manifested during the preceding periods were still aggravated. The stupor was increased. The tongue still was dry, dark-colored, and cracked. It was tremulous when protruded; and it was often difficult, or even impossible, to get that organ outside the lips. Sordes began to collect upon the lips and gums. In some cases the "calor mordax" could be distinguished, and in others the surface was covered with a cold clammy sweat, communicating a sensation to the hand similar to that experienced when a dog's nose is thrust against it. Respiration difficult and sometimes stertorous. Patient complained of a ringing or buzzing in the ears. The pulse

still frequent, but more feeble. There was picking of the bed-clothes, and grasping at imaginary objects in the room above the bed. Extreme muscular debility, the patient inclined to lie upon the back, and disposed to slide towards the foot of the bed. Diarrhœa continues, and the stools darker-colored and grumous, having the appearance of dissolved blood, or, as often remarked, looked like "beef brine." Abdomen still distended, and feeling much like a lump of dough. In the worst cases, the rectum and bladder were evacuated involuntarily. It may be mentioned here, that in some cases, at the close of the second period, there would be a partial change for the better; the white coat would leave the tongue; but, instead of appearing natural, that organ would become very red, and present a glazed, shining appearance, which in two or three days would change to a dark color; sordes then would collect, and other symptoms before-described make their appearance. At the close of the third week, in the favorable cases, was generally observed an amelioration of all the symptoms. The tongue began to assume a moist and natural appearance. The pulse still frequent, but less quick and more full and soft. Diarrhœa lessened or entirely stopped, and the stools more healthy in appearance. The skin, if heretofore dry, became more moist and soft, and the urine more copious and less red and dark-colored. At this stage, in some cases, sloughs and deep-seated abscesses would appear in different parts of the body, rendering convalescence slow and tedious.

In the unfavorable cases, however, no change for the better could be seen at this time. The pulse became more feeble, often intermitting. The whole surface covered with a cool, clammy sweat. Subsultus almost incessant, and hiccough distressingly frequent. The patient would sink gradually away, with little or no pain, and die like one going to sleep.

In cases where the disease terminated fatally, before the time that crisis would occur in that particular type, the patient would suffer the most excruciating pain; but if, on the other hand, it was protracted beyond the critical period, there would be a gradual sinking of the vital powers, attended with little or no suffering. Sometimes at the commencement of the fourth week, instead of a complete crisis, there only would be a partial change for the better.

Some of the morbid appearances would continue until the twenty-eighth day, when a complete crisis would occur, and the patient seem to awake from a long sleep, unconscious of how or where he had been during the course of the disease.

In the severer cases, the patient, on recovery, was unable to call to mind anything that occurred during his sickness. All was a blank which he was ever afterwards unable to fill up in his memory. The hair, in every case, I think, whether severe or mild, would fall off in the course of two months, leaving the scalp, in some instances, bald.

I have given a description of most of the morbid appearances observed in a majority of the cases that occurred during the Winter of 1846 and 1847. Taking the cases collectively, there was every grade of type and every degree of severity. Some were so mild, that all the variation from a healthy state was a slight feeling of debility; clean but somewhat red tongue; bowels slightly deranged; occasionally inactive, but generally somewhat loose, although not sufficient to demand medication. Some could sit in a chair one half of the day, and kept the bed more because the head felt better when in a recumbent position than from a sense of debility. In such cases there was some appetite and but little thirst. The pulse in this grade was uniformly more frequent than natural, being from 100 to 115 in a minute. The crisis occurred as soon as the fourteenth day, and frequently sooner.

Another grade was still more severe in all the appearances. The patient could sit up but a few minutes at a time. Tongue slightly coated, or red and dry. Some epigastric tenderness, and diarrhœa would supervene as soon as the tenth day, from which time until the twenty-first day the disease would progress steadily. Then a crisis would take place, and the patient begin to improve.

A third variety was still more severe. All the symptoms that made their appearance during the middle or last stages of the other grades, were seen in their severity during the first days of this. The most vigorous plan of treatment was requisite, and great watchfulness called for on the part of physician and nurse to control the attendants upon its daily progress.

The duration of the disease in question was variable. As stated above, it would terminate sometimes as early as the seventh or

ninth day; again on the fourteenth, twenty-first, and twenty-eighth days. The uniformity with which the disease terminated depended upon whether there was any organic lesion. If there was none, the crisis was pretty sure to occur on the mentioned days, according to the grade of type. The instances were numerous, in which the disease was protracted indefinitely, by reason of such complications. In one instance there was peritoneal inflammation which confined the subject to the bed twelve weeks. In another, there was such a complete exhaustion, both mental and physical, that the sufferer remained for weeks in so imbecile a state as to forget everything she ever knew, even her own identity. Her faculties returned gradually, and she has since enjoyed perfect health.

In review, then, we have the following synopsis of morbid appearances, which may be considered as characteristic of the disease, we are attempting to describe:—

1. The pulse was frequent and quick. With an occasional exception, it was not less than 100 in a minute, and frequently going as high as 140 or 150 in cases that recovered. It was sometimes full, but always easily compressed beneath the finger. In the worst cases, and in feeble constitutions, it was sometimes found to intermit, which was usually an unfavorable symptom.

2. The breathing was hurried, frequently so much so as to occasion panting.

3. Morbid sweating was common, and was considered indicative of danger.

4. Diarrhoea was almost unfailing, and in many instances very excessive. Sometimes its existence was coeval with the attack, but frequently induced by the action of cathartics taken by the patient before calling medical aid, which developed the disease, that otherwise might not have occurred.

5. Tympanites was an attendant generally where there was diarrhoea, but sometimes when the bowels were torpid.

6. Cough was common, and frequently the first symptom complained of. The patient would seem to have a cold, cough a little for a day or two, when other symptoms supervened, and the disease was established.

7. Hæmorrhage from the bowels occurred in some cases, to such

an extent as to exhaust the patient in a few hours. Sometimes the blood flowed unmixed, but commonly attended by morbid secretions.

8. The nervous system was in a marked degree affected in every case, more or less. Subsultus was common in the comparatively mild cases—worse, however, in persons of a strictly nervous temperament. Inability to confine the attention, indifference to surrounding objects and their own condition was apparent. But little solicitude was manifested in respect to recovery.

9. Delirium was common in the most cases, in some of which the patient would be almost uncontrollable. In a majority of cases the patient was so stupid, that it was difficult to obtain a correct answer to an inquiry. He might, perhaps, be aroused enough to answer one question, but would relapse immediately into a snoring sleep.

10. Deafness was almost unfailing, and to such a degree, in some cases, as to render it difficult to make the patient hear.

11. Retention of urine was an occasional source of trouble, most common in females.

12. Forgetfulness of what had occurred during the disease was common in the severe cases, and in the mild the memory was confused. Unconsciousness of the lapse of time may be mentioned in this connection; and, if a patient was unable to tell at any time how long he had been sick, or could not remember the day of the week, the prognosis might be considered as doubtful.

13. The rose-colored eruption attended a sufficient number of cases to be considered as diagnostic.

14. Subsultus and hiccough also were common—the former in cases of every grade, but the latter only in the worst cases.

Respecting the nature of this disease there can be no doubt. The foregoing enumeration of symptoms render its peculiar character conclusive.

It may be well to mention some facts connected with the prevalence of this endemic, which will be interesting. The starch-mill is situated at the southern extremity of Main-street, which extends north and south. Crossing Main-street at right angles, about eighty rods north of the mill, is another street (St. Clair). There is a ravine commencing at the mill, which extends to the N.E.,

crossing St. Clair-street about thirty rods east from the corner. In a north-west direction from it also, is a small stream crossing St. Clair-street, eighty rods from the corner. The man who died from congestion of the brain lived in a north-west direction from the mill. Two or three of his children had the disease, one of whom died, having all the appearances peculiar to it. During the month of November the wind was mostly north-east, carrying the effluvia in the direction of this family, and the smell was noticed more than a mile west from the mill. The prevailing wind after Winter set in, was S.W., which would carry the miasm in the ravine first mentioned; and it was in that part of the village crossed by this ravine that the majority of cases occurred. The first fatal case, and almost the first one that occurred after the commencement, was that of the young lady who, after seventeen days from the accession of typhoid symptoms, was attacked with hæmorrhage from the bowels, and died in a short time.

The smell of the potatoes was noticed little or none in parts of the village directly north from the mill, while N.E. and N.W. it was almost intolerable. The subjects were generally young persons from eight to thirty years of age. In some instances, whole families were affected. Facts may be related which would lead us to consider the disease as contagious. About the time that Miss B. (the young lady referred to) died, a daughter of Mr. K., who lived in the house adjoining, was attacked. About the same time, a sister of Miss B. was attacked, and died on the seventeenth day of the disease. A young lady (Miss F.) who assisted in the family of Mr. K. was also taken sick, and remained in the family. A son of Mr. K. was taken about ten days after the daughter, and Mrs. K. was attacked before the rest recovered. After the younger Miss B. died, and previous to the attack of the other, the family removed to a house across the street. The wife of the man who went into the house Mr. B. had left, was attacked about the same time. Her husband also had some of the symptoms, but they were thrown off. Miss A., who went into the family of Mr. K. after Miss F. was taken sick, began to complain in about a week, and went home to an adjoining town ten miles distant. She had the disease and died. Three or four of her father's family were afterwards attacked, and a brother died. No other cases occurred in

that neighborhood. A sister-in-law and niece of Mr. K., who had assisted considerably in the care of the sick in his family, had the disease, but in a mild form. They resided on Main-street, out of the range of the miasm, and were not in Mr. K.'s house more than one-third of the time. Mr. K. had some of the premonitory symptoms, but the disease was not developed. A sister of Miss F., who was with her about four weeks, was attacked and went home. She had the disease, and a brother, who resided in the family, also took it from her and died. A young man who resided in the family was attacked, and before he recovered, his father, who resided about twenty-five miles south, came and took him home. After his arrival at his father's, some of the family was taken sick, and from thence the disease spread until the whole household (the parents and seven children) died; the one who was taken sick here alone escaping.

After the death of the second Miss B., her father, a sister, and three other members of the family were attacked, and had a severe form of the disease. Many others of the neighbors who had watched with these families, either had the disease or felt the symptoms.

Some cases occurred in parts of the village upon which the miasm was not wafted by the wind; but in every instance, we think, the subjects had assisted more or less in the care of the sick in the infected district. These cases were of the middle or mildest grade, and the disease was not communicated from them to others. Those who spent only part of the time with the sick were affected much less, provided the balance was passed in parts not visited with the disease. Those who washed the clothes used about the sick, or devoted all their time with them, were most exposed.

Another fact is worthy of mention. The persons who worked in the mill until the potatoes that did not rot were all converted into starch, were not subjects of the disease, unless they spent their time, when not at work, in the infected district. There were a number of families residing within a few rods of the mill, who were untouched. We may infer from this, that miasm, to produce any effect upon the health, should be diffused to a certain extent through the atmosphere. That this idea is correct will be shown by other facts.

The above remarks apply to the disease as it prevailed during the Winter of 1846 and 1847.

After the opening of Spring, no cases occurred until September, when the disease reappeared. In the main, it presented the same characteristics during the autumnal months, as it had during the previous Winter. The principal variation was a tendency to assume a periodical form after the crisis, there being a chill, succeeded by the hot and sweating stages, as in ordinary intermittents, and susceptible of being arrested by the prompt administration of anti-periodics.

In such cases there seemed to be, in addition to the local miasm, the usual general influence tending to produce intermittents; and the typhoid tendency predominating, and expending its force first, left the system a prey to a predisposition less potent. This fact goes to prove that more than one cause may be operating in the atmosphere at the same time, each in its turn producing its effect according to its power to do so.

Such results occurred in cases where there was no organic lesion in any part, but a debilitated condition of the system, produced by the effect of the continued form of fever. When the crisis arrived the system was in a state to convalesce; but the ordinary causes of intermittents being in operation, a paroxysm would come on as stated above. Recovery would follow rapidly after the periodic tendency was interrupted, as after ordinary intermittents.

A majority of the cases that occurred during the Autumn of 1847, were in individuals who had worked in and about the starch mill, and in families residing on Main-street near the mill. The smell was not so intense as to be noticed at any distance from its source, as the pile of potatoes had diminished to a great extent. From this, too, we see that miasm must be diluted and diffused to a certain degree through the atmosphere, to be operative. At this time, the emanation was just sufficient to produce the disease in those nearest the source.

The number of fatal cases was small, the proportion not being any higher than in our usual autumnal fevers, although in many instances the disease was exceedingly severe and malignant. When once established, it could not be interrupted; still, by proper management, its violence could be lessened, and the patient enabled to

pass the crisis without fatal sinking. In cases where the diarrhœa was not very profuse, and could be controlled to a certain degree by medicine; the delirium not excessive, a favorable result generally followed.

The most unfavorable symptoms were profound coma, or raving delirium; involuntary evacuations; hæmorrhage from the bowels; cold, clammy sweats; with a pulse more than 135 in a minute. In many cases the pulsations were as many as 140 or 150 in the minute, and the patient recovered; but in one instance only do I recollect of an adult recovering, whose pulse was higher than 160.

Cases in which the pulse was not over 110, but very feeble, with a pale, flabby appearance to the tongue, great prostration of strength, subsultus, hiccough, &c., were considered in great danger; but many recovered in which the whole catalogue of unfavorable symptoms existed. Persons of intemperate habits, and those whose constitutions had suffered from other depressing causes, were the greatest sufferers.

Post mortem examinations were made in three cases. The first was in that of the young lady first mentioned. There were ulcerations through the whole extent of the intestines, from the duodenum to the rectum, the deepest being in the small intestines. The ulcerated patches were from the diameter of two lines, to that of a pin head. The intestines were found filled with black blood, and before death some quarts had passed off. She might be said to have died of hæmorrhage, as the other symptoms had not been particularly unfavorable. She, it will be remembered, died in December, 1846.

The second was in the case of a little girl, four years of age, who died in the Fall of 1848. She had had whooping-cough for two or three weeks at the time the fever set in, and her death was caused by congestion of the brain. The brain was filled with blood, and the lungs also were considerably congested. The mucous membrane of the small intestines was inflamed to a considerable extent. There were small elevated spots upon the internal surface of the bowels, which were of a bright red. This case was an interesting one, from the fact that we had an opportunity of examining the condition of the entire mucous membrane at an early stage of the disease, which we could seldom have done, as the

fever was not a sufficient cause to produce death. There was much more disease than any external signs indicated, from which we might infer that in all cases there was inflammation to a greater or less extent.

The third case was that of a young man twenty-two years of age, who died in the autumn of 1847. He had resided during the summer in St. Joseph's County, and had suffered while there from a remittent fever. At the time he was attacked with continued fever, he had not recovered from his former sickness, but was able to be about the streets. He was not as sick to appearance as many others had been who recovered. He died on the twenty-second day from the time of attack. Half-an-hour before his death, he asked to be helped into a chair, was cheerful, spoke of his hopes of recovery, and took some food. He very soon complained of a severe pain in the abdomen, and a deathly faintness. Stimulants were administered, but he soon sunk and died in the chair. In this case there were extensive ulcerations of the small intestines, throughout the whole extent. About a foot of the ileum was gangrenous, with perforations in two or three places, the largest of which was an inch and a half in length. The intestines were diseased through the whole length to some degree, presenting a livid appearance, and considerable effusion had taken place in the abdominal cavity. He had strength enough to walk across the room within five days of his death.

No uniform course could be pursued in the treatment of this disease, it being necessary to vary according to the severity of the attack, and the grade of type assumed. In the mild cases, if called at an early stage, a laxative to remove morbid matter or faecal accumulations was advisable.

In a majority of cases, the disease had advanced so far before medical aid was called, that this was inadmissible. Frequently I have known a free dose of calomel given, when the first symptoms made their appearance, with the effect to completely break up the disease. Sometimes blue pill, or alterative doses of calomel, at the outset were beneficial; but, generally, mercury in any form failed to produce any good results,—and when given so as to produce constitutional effects, positive injury was done, as it increased nervous irritability and general depression.

As alteratives and sedatives were indicated, a favorite prescription with me was as follows :—

R Mur. Ammoniaë,	℥ij.
Fol. Digitalis,	℥j.
Pulv. Ipecac.,	grs. xxv.
Sacch. Alb.,	q. s.

The digitalis and ipecac. to be infused in four or five ounces of boiling-water; after which add the muriate ammonia, and sugar enough to sweeten the compound. A teaspoonful to be given in half an ounce of some liquid once in four hours.

This preparation was varied according to circumstances. The ipecac. was sometimes diminished or left out, and where there was much vascular debility and the pulse not very frequent, the digitalis was omitted. The muriate of ammonia was generally tolerated, but the addition of some aromatic would prevent nauseating effects.

Alternated with the above-mentioned preparation, opium either alone or in conjunction with ipecac., was used when there was looseness of the bowels; and, in some cases, acetate of lead, kino, or catechu were found necessary. Sponging the body with water at a temperature most agreeable to the patient's feelings, afforded considerable relief. Cold applications to the head were beneficial, when there was local determination producing nose-bleed, &c. Diaphoretics and diuretics, according to the circumstances of the case, together with such other means suggested by general principles, made up the treatment for the first week after the accession of the disease. As the tongue became dryer and the diarrhœa more profuse, oil turpentine in doses of from six to ten drops once in six hours, was a valuable remedy in conjunction with opium, &c. Sinapisms and fomentations to the abdomen, when there was tenderness and tympanites, were beneficial; and also oil of turpentine applied as a rubefacient. Blistering the epigastrium and abdomen was attended with good results in many cases. In cases attended with nervous irritability, an infusion of valerian was useful, given in free doses. It would frequently produce sleep where there was morbid watchfulness, especially in females of an extremely nervous temperament, who would not tolerate opium. An ethereal tincture of castor would also produce the same effect.

At the commencement of the second week, as the symptoms became aggravated and the patient weaker, muriate ammonia alone, in conjunction with turpentine and opium if indicated, were principally employed. It was sometimes necessary to employ some mild tonic in the worst cases, and serpentaria was found to serve such a purpose very well.

Cold drinks were generally preferred, and a small quantity of cold water or elm-water, often repeated, was the most acceptable. Along with medicines, a proper use of some mild diet was deemed important; and it was found best to administer a small quantity of nourishment as regularly as the medicines were given. In the mild cases, some simple gruel was found sufficient, made of flour or rice boiled very soft. In the severe cases, attended with debility, beef-tea or animal broths were found necessary. During the convalescence, an egg beaten up with brandy properly diluted, was a useful article of diet.

Inasmuch as there was such a dissimilarity in the different cases as to severity, modifying symptoms, and local complications, it was impossible to follow any one mode of treatment. Each case had to be managed according to its own merits; and my own views upon this subject cannot be more concisely expressed than by quoting the remarks of Dr. Watson (*Op. Cit.*, edition of 1851, p. 963.) "Summarily expressed," he says, "it consists in the exercise of incessant vigilance, and the adoption of the proper remedy at the proper moment. It lies between a timid or sceptical abandonment of all known resources, and a meddlesome rashness in applying them. The flame of life may be suffered to expire without timely succor, by the practitioner who folds his arms and looks on; as it may be rudely extinguished by a restless or routine interference, which has no definite or intelligible purpose."

The convalescence, in different cases, depended upon the extent of injury, both functional and organic, which the system had sustained. If there were no organic lesion, and the patient of a good constitution, recovery was rapid. When the disease had expended its force, all the functions seemed to resume their office, and the individual became renewed in physical energy. In some cases, those who had suffered were more robust than before their sickness.

The disease in question continued to prevail till the Winter of 1847-48, when its violence was stayed. Since then, however, there have been more or less cases, until the present time, varying in severity from year to year. Intermittents and remittents have been less frequent, and when they do occur there is a tendency to assume a typhoid type. Less active treatment is necessary in the management of all diseases.

In reviewing the phenomena manifested in this endemic, we find some facts not hitherto mentioned that are interesting. One is, that miasm will follow the course of streams, or the lowest places in the land. The smell from the pile of potatoes was very distinct along the course of the stream and ravine mentioned; whereas, in other directions and localities it was hardly noticed.

Another fact was, that the disease was most prevalent in those parts upon which the wind blew most constant at the time.

Another still may be mentioned. It was found that the pulse of persons in health, who had resided in the infected district, was increased in frequency, in more than one instance being one hundred in a minute. From this it seems that there was a general predisposition to the disease, though not developed in every case.

A variety of causes operated to change the predisposition to the disease itself; and those who were most with the sick, and who violated to the greatest degree the laws of health, were its subjects.

Almont, Lapeer Co., Mich., *December, 1852.*

SELECTIONS.

[We are indebted to the *Am. Journal of the Med. Sciences*, for the following notice of Dr. Dickson's Report to the American Medical Association, "On the Blending and Conversion of Types in Fever."

Our Philadelphia friends are favored in living nearer the Orient, but we live in hope. We confess that we see no reason why it should take some months for the *Transactions* to reach us, while the *Journals* come in a few days.—EDS.]

Dr. Dickson has treated the subject referred to him in a very masterly manner; his general conclusions are cautiously drawn, and bear the marks of truth; while he admits that the types of fever of a very dissimilar origin and character may become blended together in the same case, and that one type may be substituted for another; he denies that the *conversion*, strictly speaking, of one type of fever into another can, under any circumstances, take place.

Dr. Dickson refers to the very loose and indefinite manner in which the term type, when applied to fevers, has been employed even by the most distinguished medical authors. It has been made use of to express promiscuously all the varied relations of this class of diseases, "some of which are those of strong resemblance and close affinity, others again of marked dissimilarity, and others still of almost absolute contrast." Although not prepared to offer exact limitations to the use of the word type, it must, he considers, be understood always to convey some marked distinction, lying deeper than the general relations that connect the subjects treated of. While, he remarks, we may still dispute whether typhus and typhoid fevers differ essentially, no one will confound scarlatina or a tertian intermittent with either.

"We are persuaded," he says, "that the truth will, on examination, be found in the following propositions: 1. That each type, or marked variety of fever, is the result of a definite cause, relevant in its properties, characters, and mode of action, to the effects produced, however obscure this relevancy may be, and ill understood, in the present state of our knowledge. 2. That these causes, varying greatly in nature, must be sometimes similar, sometimes dissimilar, and sometimes contrasted or opposite in the character or mode of their efficiency. 3. That causes of different kinds may sometimes coexist. 4. That when they resemble each other, their

effects or influences are really *blended*, and mingled, and interchanged, as one or the other may predominate. 5. That when dissimilar causes coexist, they may sometimes act together, but not often; may sometimes blend their influences, but not readily or freely; they may possibly supersede each other by *substitution*; but in no imaginable instance can the effect of one cause be the effect of another and dissimilar cause. This sort of transformation, the only true conversion in the logical sense, is a rational impossibility, whether we regard diseases materially and ontologically as entities, or pathologically and dynamically as mere affections of the organism arising out of precedent impressions from causative agents. We do not deny the difficulty of distinguishing practically, such substitution for conversion so called, we desire only to express our meaning precisely, in order that our views may be clearly understood.

"The records before us present numerous examples of the *blending* of types of fever—the intermingling of characteristic features. This is a phenomenon by no means rare; it is, for the most part, easily explained, and the coexistence of more than one cause may usually be indicated to account for it.

"There are also abundant instances, related upon sufficient authority, in which one form or type takes the place of another which has preceded it. This, which we shall describe and comment upon, is the *conversion* of common phraseology. We have said that we believe it to be correctly substitution, and not transformation; but we have no objection to the employment of the above term, so convenient, so much more familiar, and, indeed, so indicative of the change that has occurred."

Dr. Dickson supposes, therefore, some special relation to exist among fevers apparently derived from the same source that implies their convertibility, and believes that it is just as reasonably to be inferred that fevers thus connate are *exclusively* interchangeable; those which arise from distinct causes, not being thus related, are not convertible.

The periodical fevers, which are referable to a common origin, and connected by a history of common properties, are referred to as notoriously mutable or convertible; the remittent may subside into an intermittent, the intermittent being aggravated into a remittent, a quotidian falling into a tertiary or a quartan, and these becoming duplicated, complicated, or exasperated into quotidian frequency.

Continued fevers, while they are strongly contradistinguished from the periodical by many remarkable points in their history and character, are, also, closely allied to each other, so that the true diagnosis of the several varieties distinguished by name is still warmly disputed. These, likewise, mingle and run into one another by blending and interfusion, as might fairly be inferred from

the prolonged disputes as to their identity, and differences, and mutual relations, whether of resemblance or contrast.

"The exanthemata," Dr. Dickson remarks, "form a class of fevers which, at first sight, would appear to be palpably and obviously separable from all other types. But a more careful examination will show that even here it is not easy to establish entirely, and preserve unfringed, clear boundary lines between neighboring and connate maladies. The characteristic features, indeed, of the eruptive fevers are so far unsettled, that we find pathologists of high reputation including under this head all the continued and some of the uncertain types. Both typhoid and true typhus have been arranged here; yellow fever, which has been assigned a position on almost every column of the nosological catalogue, is pronounced by Hildenbrand to be an exanthem; cholera asphyxia is thus regarded by Parke, Simon, and Horner; and dengue—by some merged into the ranks of the malarious remittents, by others classed with yellow fever, and by Cooke and Copeland recognised as a variety of scarlatina—is, to say the least, more closely affiliated here than anywhere else."

Dr. Dickson assumes the establishment of the following distinct types of fever:—

"1. The periodical; including (after Bartlett) the intermittent, remittent, and congestive.

"2. The continued; comprising typhoid, true typhus, simple fever, ephemera, febriculæ, British epidemic fever, relapsing fever.

"3. The exanthematous; variola, scarlatina, measles, dengue.

"4. Yellow fever; the hæmagastic pestilence of Copland, *causus* of Mosely, typhus icterodes of Cullen, malignant remittent of Rush.

"5. Catarrhal fever, known when epidemic as influenza."

The question as to the blending of these several types is very fully and satisfactorily discussed. The subject of the apparent conversion of the types of fever is next considered.

"The examples above given of the mingling and interfusion of symptoms of two or more forms of fever," says Dr. Dickson, "differ among themselves, in the greater predominance of one morbid influence or another in the several cases. Of numerous attacks which commence in the same way, the course, history, and ultimate termination may be strikingly diverse. Invading with the ordinary symptoms of climatorial, autumnal bilious fever, one shall retain its periodical malarious character, ending as it begun, with the features of a simple remittent. Another, losing these features in a protracted course, shall grow more and more continuous, and, ultimately, put on all the appearances of maculated typhus, with dry, dark tongue; mouth, teeth, and gums blackened with sordes; or present the meteorism and abdominal disorder of typhoid, with intestinal ulceration shown *post mortem*; and a

third shall sink promptly into profound collapse, dying with orange-yellow discoloration of skin and eyes, and black vomit. If we suppose all these to have been struck down by malaria, in a locality infected by the coexistence of the three morbid poisons, it is easy to imagine some of them to come under the influence of ochlosis, the alleged source of typhus and typhoid, and others, strangers and predisposed, to fall victims to the obscure cause of the hæmagastic pestilence. We may correctly assume that, in all these, a temporary *blending* of types took place at a certain stage of their progress, under the conjoint influence of the several concurrent causes. As they advanced, however, the more intense or forcible influence would predominate; generally speaking, the malarious characteristics, periodicity, especially, would disappear, being substituted or supplanted by those of the more malignant poisons; a virtual and complete *conversion of type*. In this sense, then, we believe that conversion is not only possible, but frequent, and shall proceed to adduce in proof a few additional evidences."

One more extract from this interesting report must suffice; all we desire being to present to our readers a fair exposition of the general positions assumed by the author, in reference to the blending and conversion of types in fever.

"If," Dr. D. remarks, "contagious diseases can be originated or generated under any contingency whatever, and no one can doubt the possibility of this occurrence, and if the matter of contagion is, as indeed it must be, a vital individuality, a self-multiplying germ, capable of indefinite reproduction, then the creation or development of this new cause must give rise to new results. A new form of disease now presents itself, which either *blends* with that which pre-existed, or supplants and *substitutes* it. If the causes of the two are connate and correlated, and in any degree similar or analogous in influence, *blending of type* takes place; the more especially if they are nearly equal or quite equal in force, and circumstances do not strongly favor either at the expense of the other. But if they be markedly dissimilar or contrasted, or in any manner incompatible, or if circumstances favor the one and repress the other, then there will and must happen the subversion of the first, the weaker or least tenacious; and *conversion of type* will take place, in the only sense possible and intelligible."

The Chemist's Dream.

[THE following ingenious and singular effusion has been placed in our hands by a chemical friend. We do not vouch that it has never been published before, but it will repay perusal during an idle moment. We are informed that it was actually written by a medical student some years ago in Philadelphia, but of the exact

time of writing, or of the name of the author, the deponent saith not.—*Stethescope.*]

Methought I was exploring the hidden recesses of an extensive cave, whose winding passages had never before echoed to the tread of human foot. With admiration and delight I was gazing at the thousand wonders which the flashing torchlight revealed on every side, at each step of my progress, when a strange sound, as of the hum of many voices, fell upon my ear. What such a sound could mean, in such a place, was more than I could divine. Curiosity led me in the direction whence it came. The buzz of conversation, cheerful as it would seem from the occasional bursts of merriment that were heard, grew more and more distinct, until the dark and narrow passage I had been following suddenly opened upon one of those magnificent rock parlors, of whose grandeur and beauty description can convey but a faint idea. A flood of light illuminated the arching roof, with the vast columns of stalactites sparkling with crystals that supported it, and was reflected with imposing effect from the huge streets of the same material, of the purest white, that hung from the ceiling in graceful but substantial drapery. I stood in one of nature's noblest halls, but not alone.

A strange company had gathered there. Black spirits and white, blue spirits and gray, were before me. A festive occasion had assembled, in joyous mood and holiday attire, the first-born of creation—the *Elements* of things.

In dreams, nothing ever surprises us. It seemed perfectly natural to see these fairy forms in that grotto. So, accosting without hesitation the one nearest to me, I apologised for my intrusion, and was about to withdraw. From my new acquaintance, however, I received so cordial a welcome and so earnest an invitation to become a participator in their festivities, that I could not deny myself the pleasure of accepting the hospitality so kindly offered.

I was soon informed that some of the leading characters among the elements had resolved, some weeks previous, upon having a general pic-nic dinner party. Sixty-three family invitations had accordingly been sent out—one to each of the brotherhood—and preparations for the feast made upon a most extensive scale. Sea and land had been ransacked for delicacies, and everything was put in requisition that could contribute to the splendor of the entertainment or the enjoyment of the occasion.

At the hour I so unexpectedly came upon them, nearly all the guests, with their families, had assembled in the strange drawing-room I have described, awaiting the summons to the banquet.

Spacious as the drawing-room was, it was nearly filled with these interesting children of nature. And here they were seen, not as in the chemist's laboratory, writhing in the heated crucible,

or pent up in glassy prisons, or peering out of gas-holders and Florence flasks, but arrayed in their beauty, each free as air, and acting as impulse prompted. There were those present of every hue, every style of dress, every variety of appearance. The metals, the gases, the salts, the acids, the oxides, and the alkalies—all were there.

From the mine, from the shop of the artizan, from the mint, from the depths of ocean even, they had come; and a gayer assemblage, a more animating scene, my eyes had never beheld. Many of the ladies of the party were most tastefully attired.

Chlorine wore a beautiful greenish yellow robe, that displayed her queen-like figure to good advantage. The fair daughters of *Chromium* particularly attracted my attention, with their gay dresses of the loveliest golden yellow and orange red. *Iodine* had just arrived, and was not yet disencumbered of an unpretending outer garment of steel grey that enveloped her person; but the warmth of the apartment soon compelled her to throw this aside, when she appeared arrayed in a vesture of thin gauze of the most splendid violet color imaginable. *Carbonic Acid* was there, but not clad in the airy robes in which I expected to see her. The pressure of the iron hand of adversity had been upon her, and now her attire was plain—simply a dress of snowy white—the best which the straitened circumstances to which she was reduced allowed her to assume. Quite a contrast to her was her mother, *Carbon*, whom you would have supposed to have been a widow in deep mourning, or a nun who had taken the black veil—so sable were her garments, so gloomy her countenance—had not her earrings of polished jet and a circlet of diamonds that glistened on her brow evinced that she had not altogether renounced the world and its vanities. The belle of the room appeared to be *Nitric Acid*, the graceful daughter of *Nitrogen*, airy in all her movements, and with dress of deepest crimson, that corresponded well with a lip and cheek rivaling the ruby in redness. Among the lady metals, too, there were many bright faces and resplendent charms; but I must pass on to a description of the gentlemen of the party.

Sulphur wore a suit of modest yellow plush, while *Phosphorus* quite disconcerted some of the most decorous matrons present, by making his appearance in a pair of flesh-colored tights.

Phosphuretted Hydrogen, or, as he is nicknamed, "Will-of-the-Wisp," startled me, by flitting by in a robe of living flame, the dress in which the graceless youngster is said to haunt churchyards and marshy places, playing his pranks upon poor benighted travellers. The king of metals, *Gold*, was arrayed in truly gorgeous apparel, though it must be confessed there was a glitter and an air of haughtiness about him, from which you would turn with pleasure to the mild, sweet face of his royal sister, *Silver*, who

leaned upon his arm, a bright-eyed, unassuming creature of sterling worth.

Mercury was there, as lively and as versatile as ever, a most restless being, now by the thermometer, noting the subterranean temperature, now by the barometer predicting a storm in the regions overhead, now arm-in-arm with this metal, then with that, and they all, by the way, save stern old *Iron*, had hard work to shake him off. A strange character surely was he—a philosopher of uncommon powers of reflection—the veriest busy-body in the world, well versed in the healing art, a practical amalgamatist—in short, a complete factotum. *Potassium*, though a decidedly brilliant-looking fellow, manifested too much levity in his deportment to win respect, and was pronounced, by those who know him best, to be rather soft. In gravity, *Platinum* surpassed all the rest, and in natural brightness was outshone by few. When *Oxygen* arrived, and his light, elastic tread was heard, and his clear transparent countenance was seen among them, a murmur of congratulation ran around the drawing-room, and involuntarily all assembled rose to meet him and do him homage. He was a patriarch indeed among them—literally a father to many of the youngest guests. His arrival was a signal of adjournment to the banqueting-room, where of right he took his position at the head of the table.

Concerning the apartment we had now entered, I can only say it was grand beyond description. It was lighted up with the brilliance of noon-day by an arch of flame intensely dazzling, produced by a curious apparatus which *Galvanism*, who excels in these matters, had contrived for the occasion out of some materials which his friends *Zinc* and *Copper* had furnished him. Festoons of evergreens and wreaths of roses encircled the alabaster columns, and made the whole look like a hall in fairy-land. But I must describe the table and its paraphernalia—the preparation of viands,—I mean the baking, boiling, roasting, stewing, and the like, which had been committed to *Caloric*, who had long experience in that department. The nobler of the metals had generously lent their costly services of plate, while *Carbon* united with *Iron* to furnish the elegant steel cutlery used on the occasion. *Alumina* provided the fine set of china that graced the table, and *Silex* and *Potash*, without solicitation, sent as their joint contribution, cut glass pitchers and tumblers of superior pattern and transparency. As among the sons of nature there is no craving for artificial excitement, *Oxygen* and *Hydrogen*—who by the way have done more for the cold water societies than Delavan and Father Mathew—were commissioned to provide the drinkables, and what beverage they furnished may be easily conjectured. *Carbon*, with *Oxygen* and *Hydrogen*, found most of the vegetables, and *Nitrogen*, whose assistance as commissary here was indispensable, joined them in procuring the meats under which the table groaned. No taste but

would be satisfied with variety—no appetite but would be cloyed with the profusion of good things. Though the liberality of the four that have been mentioned left but little for their associates to contribute, still some individual offerings to the feast deserve to be mentioned. Thus, the oysters, *Carbonate of Lime* had sent in shell; the pyramids of ice-cream for the dessert were provided by the daughter of *Chlorine* and *Hydrogen*, the bride of *Sodium*. who was out several hours in the snow engaged in freezing them; and the almonds and peaches came from the conservatory of *Hydrocyanic Acid*, the druggist.

After grace had been said by *Affinity*, who is a sort of chaplain to the *Elements*, having officiated at the weddings of all the married ones of the company, a vigorous onset was made upon all the good things before them. At first, all were too much engaged for conversation; but the dessert appearing at last, as they cracked their nuts, the jests too were cracked. Toast and song were called for, and wit and innocent hilarity became the order of the day. Even *Oxygen*, who had presided with such an air of dignity, relaxed from his sternness, and entertained the younger ones at the table with many a tale of his mischievous pranks in the days of old father *Chaos*, when *Time* and himself were young. Strange tales they were, too, of earthquakes with which *Hydrogen* and he would now and then frighten the *Ichthyosauri* and *Megatheria* of the ancient world, and of conflagrations comical, as of old *Vulcan's* tongs and anvil, kindling them before his eyes with the very bolt he was forging. This, however, he added, with a sly glance at his old partner, *Nitrogen*, who sat near, was before marriage had sobered down his spirits and tamed his impetuosity.

I have no space to chronicle more of the freaks of *Oxygen's* early youth, nor any of the sayings and doings of others of this memorable night's party, else I might relate the marvellous story *Nickel* had to tell about the manner in which he managed to deceive and wrong the miners of former days, by making them believe that he was the parent of *Copper*, until at length they concluded that he was an evil spirit, whose sole object was to interrupt their operations. I would tell, too, of the drolleries of *Nitrous Oxide*, that funniest, queerest, craziest of youngsters, and how *Phosphorus* made a flaming speech, and *Potash* a caustic one, and how *Mercury* proposed as a toast, "The Medical Profession,—to whom we say, use us, but don't abuse us." I must speak, however, of a curious by-scene I chanced to witness. It was a flirtation that *Platinum* was carrying on with *Hydrogen*, whom, much to my surprise, I found seated up among the metals, and quite at home among them too. There was quite a contrast between *Platinum*, grey, heavy, and dull as he was, and the light and buoyant creature by his side, but there soon seemed to be evidence of some mutual attraction between them.

So passed the evening; all went on "merry as a marriage-bell," with nothing to mar the good humor that prevailed, until in an evil hour *Sulphuretted Hydrogen*, a disagreeable fellow, against whose appearance at the banquet most of the company had protested, entered the apartment with a very offensive air. In an instant the whole family of metals, to whom he is particularly obnoxious, changed color. *Lead* fairly grew black in the face with indignation; *Arsenic* and *Antimony* seemed to be jaundiced with rage; *Ammonia*, to whom his presence recalled very unpleasant associations, in trying to avoid him, precipitated several metallic oxides on the floor, while *Chlorine*, with more self-command than the rest, advanced with a firm step to expel the intruder, looking as if she were about to annihilate him on the spot. Well, at this crisis he spied *Nitric Acid*; and, knowing that his destruction was certain if they should come in contact, he at once withdrew, very much to the satisfaction of the whole company.

How the scene might have terminated I know not; for just at that moment a strange sound of awful import, like the trampling of a mighty host, came to my ears. I felt sure it was an earthquake's voice, and that now my fate was sealed. My knees tottered under me—the arching grotto and festive board gradually vanished from before my eyes, which opened upon the class as they were leaving the laboratory of our worthy professor of chemistry,—where, it seemed, much to my confusion, I had fallen asleep during the lecture, and

"Dreamed a dream in the midst of my slumbers."

S. R. H.

From the Am. Journ. of Med. Sciences.

Wound of the internal Iliac Artery, caused by Instruments used with intent to expedite Labor.—(From "Extracts from the Records of the Boston Society for Medical Improvement. By Wm. W. Morland, M.D., Sec'y.")

DR. HAYWARD, Sen., had seen, in a late number of the *London Times*, a report of a judicial action against a person accused of causing death by the manipulations above-mentioned.

In conjunction with this, Dr. H. referred to another case of the kind, which, singularly enough, he had heard an account of while in New Bedford, where it occurred, upon the same day on which he had read the report of the *Times*. A married lady, thirty-five years old, and six months advanced in pregnancy, went to the office of a homœopathic practitioner, who, it is supposed, at her request, attempted to procure abortion instrumentally; the membranes, however, as it subsequently appeared, were not ruptured; death followed; the operator is arrested and held for trial.

The following are the *post mortem* appearances, communicated

to the Society by Dr. J. B. S. Jackson, who received them from Dr. Lyman Bartlett of New Bedford:—

External Appearance of the Body.—Surface very pale, otherwise normal; in left hypochondriac region an apparently recent contusion, near the superior spinous process of the ilium, in size about that of a nine-penny piece—yellow and hard; eleven other similar, but smaller spots below this, upon the abdomen and upper part of the left thigh; slight superficial ecchymosis, as from a contusion, about the posterior commissure of the labia externa; similar spots upon the nates, each side of the anus; evident ecchymotic contusion over the posterior portion of the labia externa; abdomen considerably distended.

Dissection.—Upon opening the *abdomen*, about two quarts of bloody serum escaped; the intestines were seen to be covered by an apron of coagulated blood, about six inches in vertical, and ten inches in transverse diameter, and of an average thickness of two inches; on removal of this coagulum, the intestines were seen, pale; the folds of the mesentery, attached to the lower portion of the small intestines, are separated by a clot of blood which would fill a pint bowl; the inferior fold of the mesentery was ruptured by the pressure of the blood accumulated between the folds. The *uterus* was flaccid, and in volume about the size of a three-pint bowl; on its posterior surface, opposite to the promontory of the sacrum, was observed an opening through its parietes, made, apparently, by some cutting instrument, whose diameter would be that of a pipe-stem, or of the common catheter; corresponding to this opening, another of the same size and appearance existed, going through the peritoneum forming the inferior fold of the mesentery. Beneath this puncture in the mesentery, and corresponding to it, was found an opening into the *right internal iliac artery*, one-fourth of an inch below the bifurcation of the main iliac artery, and of sufficient size to admit the point of a goosequill. On opening the uterus, a small *fœtus* was found, measuring seven and a half inches from the vertex capitis to the nates; its finger-nails perceptible. The membranes were not ruptured; on the posterior internal surface of the uterus, one and three-fourths inches above its cervix, was a puncture, extending obliquely two inches in length, through the parietes of the organ and terminating at the puncture previously mentioned, so that a blunt-pointed probe passed readily through from one orifice to the other. About half an inch from this puncture was found another, made obliquely into, but not going through, the uterine walls; its course parallel to the former; its length one and a half inches. Contusion, with ecchymosis, observed upon the internal surface of the posterior portion of the uterus.

All of these punctures corresponded with the mouth of the ute-

rus, so that an instrument passed into the vagina would go in the direction, and produce the wounds, above described.

Death followed these manipulations in about twelve hours.

Present at the *post-mortem* examination, Drs. Spencer, A. and J. Mackie, Fulsome, and Lyman Bartlett.

From the Canada Medical Journal.

False Aneurism of the Femoral Artery, the Sequence of Abscess—cured by Ligature upon the External Iliac. By S. S. STRATFORD, M.R.C.S.L., Toronto.

IN the Spring of 1845, I was called by Dr. Corbin to see a son of Mr. Leek, a wealthy farmer residing in the township of Oxford East, C.W. The boy was about 15 years of age, and was affected with a very large abscess in the right thigh; the whole thigh was greatly swollen, especially its anterior and internal portions, which swelling extended from the groin to the ham. The skin was red, shining, and pitted upon pressure, while an examination distinctly indicated a fluctuation. It had been progressing for a month or six weeks, notwithstanding the means used to arrest it, and now distinctly presented all the indications of a very large and extensive abscess.

I had been called to consult as to the propriety of opening the abscess, and immediately decided as to its absolute necessity. Accordingly, I made an opening in a dependent position upon the inside of the thigh, about its centre—good healthy-looking pus freely escaped, amounting to about a pint—not a drop of blood was lost, and, to ascertain the extent of the abscess, I introduced a large probe, upwards, as high as the groin, and downwards nearly to the ham; a tent was introduced into the opening, and a bandage applied round the limb. Upon calling about a week afterwards, I found that the matter which had collected from time to time had been regularly evacuated, and was now but small in quantity; the general swelling of the limb was greatly diminished, and only a thickening remained, which I expected would gradually be absorbed, and the patient would get well.

To my surprise, however, in about six weeks' time, I received a message from Dr. Corbin, saying that matter had again collected in the thigh, and he wished that I would come over and open it once more. Accordingly, I went to see the patient, and found the thigh greatly swelled; the swelling occupied exactly the same position which the original had previously done; it extended from the groin to the ham. The skin appeared red and shining, but did not pit upon pressure; there was distinctly a fluctuation to be observed; there was something about the swelling that did not present to my mind the distinct idea of an abscess, but that it was an aneurism certainly did not enter into my imagination; there was

not the least pulsation present, while its recent history certainly misled both myself and the Doctor into the belief that the swelling was the sac of an abscess again refilled with pus; the consequence was, that we decided upon puncturing the swelling. I selected a spot that I thought the most prominent and likely to make a good opening for the exit of matter, but after introducing the lancet a considerable depth, I found that no pus was evacuated, which created my surprise. Dr. Corbin then took the lancet and introduced it into another spot, and out flowed a stream of arterial blood. I was at once alive to the position of things, which was fully verified by the application of my ear to the swelling; the *bruit de soufflet* was distinct without the stethoscope—in fact, the lancet had entered into an aneurismal sac, which I only had the good fortune to avoid, by sticking it into the condensed fibrine, the walls of the sac. Having placed the finger upon the opening to restrain the hæmorrhage, I considered if the femoral artery could have been wounded by the lancet, but found that such could not possibly have been the case, for the opening was completely out of the line of that vessel; it was below it, and over the *adductor magnus*, while the blood was not propelled per saltum from the wound. I was determined to see the extent of the disease, consequently I introduced the same probe into the wound, and found that the aneurism extended to very nearly the same dimensions as the former abscess, from the groin to the ham. Having applied a compress and bandage, I at once pointed out to the friends of the patient the nature of the disease, and assured them that the only chance of saving the life of the boy was to tie the external iliac artery. The friends were at first annoyed at our mistake, and refused their consent; but, as I assured them the boy would bleed to death in a few days unless the operation was done, and that quickly, upon a slight hæmorrhage occurring, they changed their mind, and I was sent for to do the operation. Accordingly, on the fifth day after the opening, assisted by Dr. Corbin, I commenced the operation in the following way:—

Having placed the patient upon a table with his buttocks somewhat raised, I cut through the skin and areola tissue, commencing at about the outer pillar of the abdominal ring, going upwards and outwards, terminating about half-an-inch above the superior spinous process of the ilium, and an inch and a half inwards towards the median line. The aponeurosis of the external oblique was then divided upwards upon a director, the lower end of the oblique was then raised, the spermatic cord was drawn upwards and inwards with a blunt hook, the areola tissue covering the sheath of the vessels, which were both seen and felt pulsating, was slit up on a director, the sheath itself was next opened, and an aneurismal needle armed with a ligature carefully placed under the artery. Having assured myself that the ligature was duly placed around the

vessel, I tied it with a firm knot, when pulsation below the ligature immediately stopped. A suture was put into the divided edges of the wound, and this was duly supported with straps of sticking-plaster. The patient was put to bed, having borne the operation without an exclamation. After the operation, the limb became blue and cold; but by the application of temperate heat for two or three days, the limb completely regained its normal temperature, and the circulation was fully established by the anastomosing branches—no further bleeding occurred—the *bruit de soufflet* had subsided after the operation—and the wound granulated and healed, the ligature coming away about the fifteenth day. By degrees the swelling of the thigh subsided, the fluctuation gradually became more obscure, the skin returned to its natural color, and in the course of five or six months almost all the thickening and hardness had been dissipated, while the boy used the limb but with little less facility than the left; and, at the present time, even the slight halt in his gait has entirely subsided. Upon pressing in the groin, not the least pulsation was discoverable in the course of the femoral artery, while a cord-like feeling indicated that it was completely obliterated; and, save this symptom, and the scar made by the operation, not the slightest appearance of the disease is present in the limb.

The reflections which present themselves upon consideration of the case, are, first, as to the cause and nature of the aneurism; and, secondly, with regard to the operation which it was necessary to perform.

As a sequence of abscess, the aneurism was unique as to its character, and clearly occupied the whole extent of the seat of that disease; the femoral artery must, from the location of the abscess, have in all probability passed completely through its sac, and it must have influenced both that vessel and the profunda femoris in their course. I presume that the artery, in this instance, failed to be closed by the effusion of coagulable lymph along their course, as is usually the case under such circumstances; but being completely isolated, it died, the dead separated from the living parts, so that the patulous mouth of the vessel drove the blood into the old sac of the abscess, which became gradually distended with it, and became an extensive false aneurism; the previous thickening and consolidation of the areola tissue which formed the walls of the abscess, now became the sac of the aneurism, and prevented the blood being diffused through the limb, as in all probability would have been the case at the separation of the slough in the artery, had not the abscess preceded the aneurism, and under such circumstances would have had all the effect and character of traumatic diffused aneurism.

Again: As to the propriety of the operation performed, I think there could be no exception. Certainly, the rule in surgery, to tie

both the extremities of the injured artery, so plainly and strenuously laid down by my venerated preceptor, G. J. Guthrie, Esq., did not hold good in this instance; although the facts in this case might have constituted a variety of traumatic aneurism, yet in all its conditions it bore a most natural resemblance to false aneurism. It was maintained by one of the first surgeons in Canada, that the seat of the aneurism should have been laid open, and the two extremities of the artery tied, to ensure against all the chances of secondary hæmorrhage; such might possibly have been the rule, but it was certainly not admissible in this case. How could we be certain where we should find the bleeding vessels, and how many might have presented themselves? Picture to yourself the aneurismal sac laid open nearly from the groin to the ham, and after you had rolled out the vast clots of black blood, and come upon the thick fibrinous wall of the sac, many bleeding mouths might have presented themselves to your notice; perhaps the extremity of the femoral artery throwing out a powerful volume of blood—next, the patulous mouths of the profunda femoris, and perhaps many other branches of the main artery, sending a reflex current, all greatly enlarged, and now preparing to take on their anastomotic duty, as the main carriers of the blood and nourishers of the limb; and even did you find the bleeding mouths of the vessels, could you possibly have tied them? You would have been obliged to follow their course to where they were truly sound, before you could have put a ligature upon them. No, the idea was fearfully preposterous, and I am convinced, that the only resource was a ligature upon the external iliac; and even was this act contrary to a rule in surgery, but the end has sanctified the means, and points to a legitimate exception to that rule.

From the New Orleans Med. and Surg. Journ.

Binocular Microscope. (From the Transactions of the Phys. Med. Society of New Orleans.)

At a meeting of the Physico-Medical Society, on Saturday evening, 2d October, Prof. J. L. Riddell called the attention of the Society to an instrument of his own invention and manufacture, which promises to be of incalculable advantage in microscopic researches, especially in the prosecution of microscopic anatomy and physiology.

He remarked, that he last year contrived, and had lately constructed and used, a combination of glass prisms, to render both eyes serviceable in microscopic observation. The plan is essentially as follows:—

Behind the objective, and as near thereto as practicable, the light is equally divided, and bent at right angles and made to travel in opposite directions, by means of two rectangular prisms,

which are in contact by their edges, that are somewhat ground away. The reflected rays are received at a proper distance for binocular vision upon two other rectangular prisms, and again bent at right angles, being thus either completely inverted, for an inverted microscope, or restored to their original direction. These outer prisms may be cemented to the inner, by means of Canada balsam; or left free to admit of adjustment to suit different observers. Prisms of other form, with due arrangement, may be substituted.

This method proves, according to Prof. Riddell's testimony, equally applicable to every grade of good lenses, from Spencer's best sixteenth to a common three-inch magnifier, with or without oculars or erecting eye-pieces, and with great enhancement of penetrating and defining power. It gives the observer perfectly correct views in length, breadth, and depth, whatever power he may employ; objects are seen holding their true relative positions, and wearing their real shapes. In looking at solid bodies, however, depressions sometimes appear as elevations, and *vice versa*, forming a curious illusion; for instance, a metal spherule may appear like a glass ball silvered on the under side, and the margin of a wafer may seem to ascend from the wafer into the air.

With this instrument the microscopic dissecting knife can be exactly guided. The watch-maker and artist can work under the binocular eyeglass with certainty and satisfaction. In looking at microscopic animal tissues, the single eye may perhaps behold a confused amorphous or nebulous mass, which the pair of eyes instantly shape into delicate superimposed membranes, with intervening spaces, the thickness of which can be correctly estimated. Blood corpuscles, usually seen as flat disks, loom out as oblate spheroids. Prof. R. asserted, in short, that the whole microscopic world could thus be exhibited in a new light, acquiring a ten-fold greater interest, displaying in every phase a perfection of beauty and symmetry indescribable.

From the Provincial Med. and Surg. Journal.

Treatment of Obstinate Ulcers by the Internal use of Tincture of Cantharides.

By J. TART, Esq.

In a case of extensive ulceration in a broken constitution, after the failure of various plans of treatment, Mr. Tart gave ten drops of tincture of cantharides three times a day, with marked benefit. In three days from the commencement, the sores began to contract, healthy lymph appeared round the edges, and vivid granulations started up. In a fortnight, the ulcers were quite healed. On this case, the author remarks:—

“Such was the progress and issue of a case, that had baffled every previous treatment employed. It affords one of many exam-

ples I could bring forward, of the great utility of cantharides in indolent ulceration, dependent either upon atony of the engaged parts, or system generally.

"In 1845, while resident in Burmah, my attention was directed to the treatment of the ulcers met with in that country, and which had long been found difficult to heal by different medical gentlemen stationed upon that coast. I drew up a paper, exhibiting the appearances presented by the different ulcers, and the states of constitutional derangement with which they were identified, and in which I had employed the tincture of cantharides with marked success. The paper alluded to, backed by several cases treated by different medical friends, was forwarded to the Madras Medical Board, who ordered it to be circulated throughout the medical service of the Madras army.

"A few extracts from the paper here referred to will show the characters of the ulcers where I found the tincture of cantharides useful:—

"1st. Where the granulations were exuberant, but pale, weak, and flabby.

"2d. Where there was deficiency, or total absence of granulations, the ulcers being deep and scooped out, with raised and indurated edges.

"3d. Where the granulations were not defective, but cicatrizing irregularly, sometimes in the centre, at other times on one side, the lymph which was thrown out and organised one day being absorbed the next."

From the *Pharmaceutical Journal* (Eng.)

On some of the more Important Chemical Disinfectants. By George Wilson, M.D., F.R.S.E., Hon. Member of the Pharmaceutical Society of Great Britain.

THE term *disinfectant*, in strictness of language, can only be applied to those agents or substances which destroy or decompose infectious or contagious matter. But it is usually employed in a wider sense, so as to include, not only *disinfectants proper*, but likewise *antiseptics* and *deodorisers*. Any attempt to draw a sharp line of demarcation between these three classes of agents, is rendered impossible by our almost total ignorance of the nature of contagious matter. Some substances, such as chlorine and sulphurous acid, possess at the same time disinfectant, antiseptic, and deodorising powers. Some, like common salt, are probably simply antiseptic; of others, such as the salts of the heavy metals, which are in high repute as deodorisers, it may be questioned whether they are of any value as disinfectants, although with some persons they rank at the head of the list. Without insisting at present on this, it may suffice to define the bodies we are about to consider, thus:—A disinfectant is an agent which effects the chemical decomposition of organic poisonous matter—the term poisonous being used in a wide sense, to include all the known or supposed causes of the development of disease, which are referred to under the names of miasma, malaria, infectious virus, contagious matter, &c.

An antiseptic is an agent which prevents or arrests the development of organic poisonous (or non-poisonous) matter, without effecting its chemical decomposition.

A deodoriser is a substance which destroys odor, by decomposing or combining with, or absorbing odorous matter. Chlorine, for example, decomposes sulphuretted hydrogen, a salt of lead also decomposes it; charcoal simply absorbs it.

Before considering the relative merits of particular substances belonging to these classes, it is necessary, however, briefly to discuss the important question: Does the poisonous organic matter which occasions certain diseases, occur in the solid, liquid, or gaseous form? The certainty that prolonged exposure to a vitiated atmosphere, such, for example, as that of a fever ward, produces disease, has led to a conclusion in which probably all concur, that the air is one of the chief media through which disease is propagated, and this connection has in turn led to the much more doubtful inference, that infectious matter is truly gaseous or vaporious. This view has probably been strengthened by the recent extensive study of the properties of anæsthetics, and by the many observations which have been made on the rapid and powerful action on the body of substances which enter it through the lungs. It has

certainly also been deepened by the opinion, widely prevalent, that the gases which are evolved from cess-pools, sewers, and stagnant waters in general, particularly sulphuretted hydrogen, hydrosulphuret of ammonia, and marsh gas (light carburetted hydrogen) are the *direct* and *specific* causes of ague and fever.

If this opinion were well founded, the limits and best modes of applying disinfectants could be determined without much difficulty, and our control over infectious diseases would certainly be much greater than it is.

I think, however, that we may with confidence affirm, that the great majority of diseases are not propagated by gaseous poisons. The recent tendency to advocate an opposite opinion, has been mainly occasioned, I believe, by an opinion expressed by the late Professor Daniell to the effect, that the fatal fever of the African coast is occasioned by sulphuretted hydrogen. This view was founded on an analysis of water brought from that coast, and determined the ventilating arrangement fitted up in the vessels which formed the disastrous Niger Expedition. It appears to have been extensively adopted by medical men.

During the frequent prosecutions for nuisance, under the new police act, which took place in this city and elsewhere, during the last visitation of cholera, it occurred to me, and to other chemists, to be constantly met by endeavors on the part of the prosecutor to compel an acknowledgment that sulphuretted hydrogen, hydrosulphuret of ammonia, and marsh gas or light carburetted hydrogen, which are confessedly given off by sewage waters, are the *direct* causes of fevers and other diseases. So long as this idea prevails, and men rest satisfied with it, as the true explanation of the mode in which fevers and similar maladies originate and are disseminated, they will cease to prosecute inquiry into the matter. It is most important, therefore, to discountenance the notion that we are acquainted with the true *materies morbi*.

That neither sulphuretted hydrogen nor hydrosulphuret of ammonia produces any special disease, may be sufficiently demonstrated by the impunity with which persons are known to expose themselves to much larger quantities of these gases than can possibly act on those who suffer from exposure to marsh miasmata. In these, the nicest tests have failed to give the slightest indications of sulphuretted hydrogen, and yet a few hours' exposure to such miasms has been enough to develop fever. On the other hand, in every analytical laboratory, sulphuretted hydrogen and hydrosulphuret of ammonia are daily respired for weeks or months together by those engaged in analysis, yet analytical chemists certainly are not specially subject to fevers. At the Bonnington Chemical Works, where the ammoniacal liquor from the Edinburgh Gas Works is largely converted into sulphate and muriate of ammonia, the workmen are exposed to the hydrosulphuret of ammonia, which

forms so considerable a part of the liquor; and when it is neutralized with sulphuric and muriatic acid, sulphuretted hydrogen is given off in such abundance as to blacken the silver coins and watches on the persons of the by-standers, and even (along with the carbonic acid simultaneously evolved) to render them temporarily insensible if they incautiously respire the gases. Yet no special malady is known to result from this exposure, and the Bonnington Works enjoy the reputation in the neighborhood of protecting it from the inroads of endemic and epidemic diseases. Similar observations as to the non-deleterious effects of exposure to comparatively large volumes of sulphuretted hydrogen have been made at the metal works, where a superficial tarnish of metallic sulphuret is removed by washing with acids, and the workmen are freely exposed to the sulphuretted hydrogen evolved. I need not say, that I do not wish to affirm that this gas, or its combination with ammonia, is not a powerful poison, if respired alone, or to deny that the continued entrance of either into the body, must debilitate it and prepare it for yielding to the attacks of disease. But that it is the cause of the fevers, which a very short exposure to the so-called malaria of certain districts infallibly occasions, I altogether disbelieve.

The alleged noxiousness of diluted marsh gas (light carburetted hydrogen), admits of more easy disproof, for were it the deadly agent it has been declared to be, our colliers who are exposed in coal pits to much larger volumes of it than any other class of persons, should be to a corresponding extent sufferers from the diseases which it is supposed to occasion; but unless when its mixture with air explodes, it is destitute of any injurious action on the pitmen, who are a healthy class of the community.

Another disease—namely, influenza—has been imputed, by high chemical authorities, to the diffusion through the atmosphere of a peculiar gas. Dr. Prout regarding seleniuretted hydrogen as its cause, Schonbein attributing its production to ozone. There is no evidence that either of these views is true, but much may be said in favor of the latter. The last severe epidemic of influenza spread over Europe with a rapidity which almost seems to point to a gas as the medium of its propagation. No one, however, has detected seleniuretted hydrogen in the atmosphere; and air largely impregnated with ozone may be breathed with an impunity, which throws grave difficulties in the way of Schonbein's hypothesis.

Whilst thus, with the exception of influenza (if it is to be excepted), no gas is known to possess the power of developing an infectious or contagious endemic or epidemic; on the other hand, as Professor Graham has justly remarked, such infectious matters as are accessible to us—for example, “the matter of cow-pox may be dried in the air, and is not in the least degree volatile. Indeed, the volatility of a body implies a certain simplicity of constitution,

and limit to the number of atoms in its integrant particle, which true organic bodies appear not to possess. Again, the source of such bodies being at all times inconsiderable, they would, if vapors be liable to a speedy attenuation by diffusion so great as to render their action wholly inconceivable. It is more probable that matters of contagion are highly-organized particles of fixed matter, which may find its way into the atmosphere, notwithstanding, like the pollen of flowers, and remain for a short time suspended in it."

To these statements it may be added, that all chemists now acknowledge, that volatility is not essential to the transference of solid bodies to the atmosphere, at least so far as those soluble in water are concerned; for observations on the largest scale have shown that the vapors of volatile liquids carry with them sensible quantities of all the solids which they dissolve; common salt, nitrate of potass, boracic acid, phosphoric acid, afford marked examples of this; but the list of salts soluble in water, which accompany its vapor at temperatures at which when dry they are fixed, is endless.* The significant word "*Malaria*," therefore, which embodies, in a single term, the evil reputation which the air or atmosphere has acquired, as the vehicle of contagion, may still, if we choose, be retained, although we acknowledge that all accessible contagious matters are non-volatile liquids or solids. It may further be added, that with the questionable exception of influenza, no endemic or epidemic spreads with the rapidity and equability, so far as area of occurrence is concerned, which would characterise it, if it were occasioned by a gas subject to a force so powerful as that of gaseous diffusion. Professor Graham's argument is still more cogent; for, according to his views, if infectious matters were truly gaseous, we should never have endemics or epidemics, unless those matters were developed in immensely larger quantities than by universal acknowledgement they are. In truth, they elude every test, even when applied to large volumes of the most infected atmospheres.

From all that has been stated, it must be inferred, according to our present knowledge, that at least the great majority of the substances which are intended to be reached by disinfectants, are not volatile, and therefore are much less easily decomposed than if they were gases. We may also with reasonable confidence affirm, that they are organic products, and as much consist of carbon, hydrogen, oxygen, and nitrogen, or at least of two (if not always of three) of

* In virtue of this we may anticipate the administration of other medicines than anesthetics by the lungs, although they may not be volatile. In cases of poisoning it would be of the greatest importance, if we could directly transfer to the blood an emetic or purgative, which we may hope to do along with the vapor of its solvent, aqueous or non-aqueous. Such a process, however, would be applicable only to medicines which act powerfully in small doses.

these elements; and that like all such compounds, they are readily decomposed by chemical reagents, especially oxidizing ones. There is no reason to imagine that infectious matters are difficult to decompose, *provided we can reach them*. The difficulty lies in reaching them. Assuming then that contagious matters are not volatile, and that they contain (to take the most complex case) carbon, hydrogen, oxygen, and nitrogen, the principles which are to guide us in the application of chemical disinfectants, will not be far to seek. Oxidizing agents will plainly be of great value as they can readily convert hydrogen into water, and carbon into carbonic acid, and thus disintegrate and destroy the morbid matter. Substances having a great affinity for hydrogen, such as chlorine and its class, will plainly also be of great service. Substances having an affinity for oxygen will also be applicable to the destruction of organic poisons; and, finally, all reagents which by contact with organic matter can determine a new arrangement of its ultimate elements. All the powerful chemical disinfectants act in one or other or all of those ways. I shall refer to five of the disinfectants: 1, quicklime, including caustic potash and soda; 2, nitric acid; 3, chlorine; 4, aqua regia; 5, ozone. The value of *quicklime* and of the *caustic alkalies* as disinfectants, has certainly not been overrated, although it may be questioned whether our sanitary authorities have been wise in trusting to lime alone as a purifier. From the careful study of the process of natural and artificial nitrification, and from the results of the application of soda lime in organic analysis, we have learned that the caustic alkalies and alkaline earths decompose organic matter with the evolution of ammonia, which by oxidization may become converted into nitric acid. Woodwork or stone floors, to which a coating of limewash cannot be applied, requires only to be washed with caustic soda or soft soap, to obtain an effect identical with that which lime occasions.

2. *Nitric Acid* seems latterly to have fallen into disrepute, but certainly very undeservedly. It acts more rapidly on many organic compounds than chlorine does, attacking their carbon as well as their hydrogen, and as it is not required in large quantity its application is not costly.

(To be concluded in next No.)

EDITORIAL.

On Variations of Pitch in Percussion and Respiratory Sounds, and their Application to Physical Diagnosis. By AUSTIN FLINT, M.D., of Buffalo.—
Being the Essay to which a Prize was awarded by the American Medical Association, at the Session of 1852.

WHATEVER is calculated to render our appreciation of physical signs more easy and certain, constitutes a permanently valuable addition to the science and literature of our Profession. Dr. FLINT, in the essay, the title of which we have given above, has called the attention of the Profession to the variations of pitch that accompany the healthy and morbid sounds elicited by percussion and auscultation. The word *pitch* is used by the writer in the same sense as it is by musicians; viz., to denote the particular tone or key of the sounds listened to. It is true, as Dr. FLINT observes, that most writers on physical exploration have omitted all mention of this quality of sound, and yet there is little doubt but that all experienced auscultators have recognised it as a part of the sound, without naming it as a distinct element.

In reference to the application of variations in pitch to the sounds elicited by percussion, the writer says:—"An elevation of pitch always accompanies diminution of resonance, in consequence of pulmonary consolidation. In other words, dullness of resonance is never present without the *pitch* being raised." "A practical advantage of attention to pitch," he continues, "consists, thus, in its confirming the existence of dullness. It furnishes additional evidence thereof, and adds positiveness to the conclusion, when the diminution of resonance might not be with certainty determinable." Again, he says:—"Another practical advantage, certainly equal to, if not greater than the foregoing, is derived from the fact that a distinct disparity of pitch may be apparent, in some instances, when a disparity in the amount of resonance is inappreciable." This last advantage was distinctly stated by Dr. Bowditch in his *Young Stethoscopist*, published several years since. It is also claimed that differences in pitch, being more readily appreciated than those of simple dullness, attention to this quality will

render percussion over the more thickly covered parts of the chest, such as the mammary and scapular regions, more valuable.

In the second section of the essay, the writer details the variations of pitch perceived in connection with the natural tracheal, bronchial, and pulmonary sounds. Two distinct sounds are heard while listening over the trachea and bronchia—the one accompanying inspiration, the other expiration. The pitch accompanying both is high, though it varies much in different persons. It is stated to be higher in expiration than in inspiration. The natural pulmonary sound constitutes the “*vesicular respiration*,” or the *respiratory murmur*, as it is now commonly called. This sound chiefly accompanies the act of inspiration; and, when it is continued to an appreciable degree in expiration, it is strictly continuous, *i. e.*, giving no interval between inspiration and expiration—which is not the case in the tracheal and bronchial sounds. The pitch of the vesicular or respiratory murmur is low, when compared with the bronchial sounds; and that part of it accompanying expiration is, in a healthy state of the lung, *lower* than in inspiration. Dr. FLINT also notes the important fact, that in fifteen apparently healthy persons examined; the pitch was “audibly higher at the summit of the right, than of the left side of the chest,” in eleven—the remaining four exhibiting no difference. His observations in regard to the variations of pitch that accompany the more important sounds developed by pulmonary disease, have led him to the following important conclusions:—

“1. In the second stage of pneumonitis, the inspiratory sound is high in pitch, followed by an expiratory sound, which is frequently, if not generally, higher in pitch than the sound of inspiration; these traits being found in conjunction with more or less of the other characters which belong to the bronchial respiration.

“2. In cases of small tuberculous deposit, or incipient phthisis, the most striking modification of the respiratory sound is the elevation of pitch. This elevation of pitch is an important element of what is generally known as the *rude, rough, or harsh* respiration. If an expiratory sound be appreciable under these circumstances, it may be as high, or higher in pitch than the sound of inspiration, and the variation of pitch in the former is greater, inasmuch as the pitch of expiration in the normal murmur is lower than that of inspiration. Elevation of the pitch of expiration, therefore, may be found to be valuable as a sign of incipient phthi-

sis, in some cases in which the variation in inspiration is not marked.

" 3. If the tuberculous deposit be more abundant, the pitch of respiration is in a more marked degree elevated. The expiratory sound, if appreciable, will be more likely to be as high, or higher in pitch than the sound of inspiration. More or less of the other characters of the bronchial respiration are at the sametime present.

" 4. In pleurisy with effusion, the pitch of respiratory sound is elevated, in conjunction with more or less the characters of the bronchial respiration, over the parts of the chest lying above the compressed lung. In cases of large effusion, after its complete removal by absorption, the affected side may continue to present a variation in pitch, the symmetry of the two sides being permanently impaired, in this respect, after the vesicular quality of respiration is regained.

" 5. In cases in which tubercle has advanced to the stage of excavation, the site of a cavity of considerable size is indicated by a blowing sound, low in pitch, with an expiratory sound (if appreciable) lower in pitch than the sound of inspiration. These traits constitute the elements of the cavernous respiration, and the cavernous respiration is the most constant and reliable of the signs of an excavation.

" If the cavity be very large, or there are several cavities, the respiration may be modified to such an extent that, on immediate auscultation, over the whole summit of the chest, it may present the cavernous characters. This may be the case, while dullness on percussion shows the existence of more or less solidification in connection with the cavities. The coexistence of relative dullness on percussion, and a low-pitched blowing respiration, denotes the predominance of excavation.

" The cavernous respiration may also be present in cases of excavation from circumscribed gangrene, and in pneumothorax with perforation.

" 6. In arrested phthisis, the traces of the disease may be manifested by a permanent variation in the pitch of respiration, in connection with more or less dullness on percussion at the summit of the chest on either side."

These propositions are worthy of careful study; and we shall take the earliest opportunity, that other imperative engagements will afford, for giving them a more extended and practical examination. The Essay is accompanied by an appendix, containing a brief record of observations on more than forty cases of pulmonary disease, presenting many points of practical interest, and well illustrating the commendable industry and zeal of the author.

N. S. D.

A Practical Treatise on Diseases of the Skin; by J. Moore Neligan, M. D., F. R. S., Honorary Fellow to the Society of Physicians of Sweden &c. Philadelphia, Blanchard & Lea, 1852, pp. 333.

DISEASES of the skin are no doubt easily diagnosed—by those who have made them an especial study—but we confess that to our uneducated ears the various terms employed by dermatologists, have given rise to much confusion. Between the natural system of Alibert, Wilson, and Cazenave, and the artificial system of Willan, with the modifications by Bielt, Cazenave, Schedel, and Bennett, we found ourselves in the condition of the countryman, who, on his first visit to the city, was very much annoyed that the houses were so thick that he could not see the town; we found the names so numerous that it was almost impossible to name the disease.

The work before us is one of the best we have seen on the subject. The classification, which is a modification of that of Willan, is tabulated as follows:—

ORDER.		GENERA.	
1. EXANTHEMATA,	-	Erythema, Erysipelas, Urticaria,	
		Roseola.	
2. VESICULÆ,	- -	Eczema, Herpes, Pemphigus, Ru-	
		pia, Scabies.	
3. PUSTULÆ,	- -	Acne, Impetigo, Ecthyma.	
4. PAPULÆ,	- -	Lichen, Prurigo.	
5. SQUAMÆ,	- -	Psoriasis, Pityriasis.	
6. HYPERTROPHIÆ,	-	Ichthyosis, Molluscum, Stearhœa,	
		Elephantiasis, Verruca, Clavus,	
		Callositates, Condylomata,	
		Nævus.	
7. HÆMORRHAGIÆ,	-	Purpura.	
8. MACULÆ,	- -	Vitiligo, Ephelis.	
9. CANCRODES,	- -	Lupus, Kelois.	
10. DERMATOPHYTÆ,	-	Porriigo, Sycosis.	

Supplementary Groups.

SYPHILIDES.

DISEASES OF THE APPENDAGES OF THE SKIN.

The descriptions are plain and definite, and the methods of treatment which have been found most beneficial, briefly indicated. We observe that the credit of having first used successfully collodion in Erysipelas is given to Spengler & Rapp. We believe that Dr. J. W. Freer, of this city, was the first who used it. The French

writers have done justice in this matter, but the English can see light only in the direction of the continent.

The closing chapter is devoted to the general points in therapeutics specially applicable to this class of affections. The author places but little confidence in baths; he thinks salt water bathing, although it seems frequently to produce beneficial action, is generally injurious. Ointments, cerates, &c., are discussed and formulæ given. Internal remedies are almost always necessary, and require to be persisted in a long time; arsenic and iodine are in favor with our author, as they are with most practitioners.

For sale by Keen, Bro. & Co.

J.

Typhoid Fever at Almont, Mich.

OUR readers will find, in the Original Department of this number, a communication from Dr. BAILEY, containing the results of his observations and experience in the treatment of an epidemic fever, which prevailed in his neighborhood some years since.

We refer to this article for the purpose of calling the attention of the profession to the peculiar circumstances under which, in this instance, a disease, resembling in every respect typhoid fever, made its appearance.

The epidemic, of which the history is given by Dr. BAILEY, had its origin doubtless in the products resulting from the decomposition of vegetable matter; but whether or not the compounds resulting from the decay of bulbous roots, like the potato, in large heaps, would be the same, or similar to those generated during the disorganization of wood, leaves, and grass, scattered over a large surface, and therefore more fully exposed to the atmosphere, light, and heat, is, to our mind, a question of much interest and importance, especially when considered in connection with the question of identity of periodic and continued fevers.

Investigations upon this point have led us to the conclusion, that the decomposition of potatoes, in the manner and under the circumstances described by Dr. BAILEY, would give rise to highly nitrogenized compounds, unlike the hydro-carbonaceous products generated during the decay of vegetable matter, under circumstances favorable to the production of the so-called miasm of fever

and ague districts. This fact, when taken in connection with others, such as the generation of typhoid fever on board of emigrant ships, in hospitals, and in ill-ventilated dwellings, where there comes to be an accumulation of nitrogenized effete matter, seems to indicate that the type of the disease may be determined by the presence or absence of nitrogenized gases.

We propose, at some future time, to examine this subject more at length; as we think it will furnish valuable indications of treatment. H.

BOOKS RECEIVED.

Tally's Materia Medica; or, Pharmacology and Therapeutics.

THIS work was announced some months since, and the medical public has been looking with much curiosity for its appearance; and, judging from the numbers before us, this curiosity will be gratified. We have delayed to speak of the work, in order that we might get some idea of the plan, style, &c. That it will be original, the first numbers give unmistakeable evidence; but we very much fear that the profession will not generally endorse the propositions of the distinguished author. It is published in numbers of 64 pages each—Price 25 cents—by Jefferson Church, M.D., Springfield, Mass.

Rankin's Abstract—Braithwaite's Retrospect.

We have received these works from the publishers. They are filled, as usual, with interesting matter of both a scientific and practical character. The selections indicate the *hugeness* of Europe, and the *diminutiveness* of America.

We have received from the authors and publishers the following essays, pamphlets, &c. :—

Proceedings of the National Pharmaceutical Convention, held at Philadelphia, October, 1852.

History of the Medical Department of the University of Louisville, by Prof. L. P. Yandell.

Professional Reminiscences of Foreign Travel, by W. Channing, M.D., Boston.

Registration of Births, Deaths, and Marriages in Massachusetts,

for the year ending 31st Dec., 1851, by J. Curtis, M.D., Boston.

Together with a number of Congressional and Legislative Documents.

New Medical Journals.

"The Southern Medical and Surgical Journal," edited by Drs. John W. King, W. P. Jones, R. O. Curry, and B. Wood, is published bi-monthly at Nashville, Tennessee. The editors give assurance that it shall live one year at least. Unless it should become weak and sickly, of which we see no indications in the first issue, we hope it may live long. If in a multiplicity of Doctors there is safety, we think the publishers need not fear. Price \$2 per annum.

"The Memphis Medical Recorder" has been received. It is published bi-monthly by the Memphis Medical College, and edited by Professors Merrill and Quintard. It is filled to the utmost capacity of its 16 pages, with interesting and useful matter. Price \$1 per annum.

"The Æsculapian," a monthly medical journal for the people, edited by C. D. Griswold, M.D., New York, has been received. Dr. G. has commenced well. The matter of the "Æsculapian," is such as will interest and profit, and we think it may do much good. As in everything else, so, in medicine, knowledge has been sought by some royal road—the end without labor. Quackery has accommodated itself to this condition of the public mind. To expose the fallacy of this idea, we want unfolded the science on which, as a superstructure, is raised the art of medicine; the people must see that prescribing for the sick is not altogether empirical, but that a knowledge of the laws of nature suggest to the educated physician the means for overcoming disease. We would be glad to see it in every family. Price \$1 per annum.

J.

Clinical Lecture, in the U. S. Marine Hospital, by W. B. HERRICK, M. D.

THE manner in which the tissues are nourished is somewhat obscure. If, however, we keep in mind what has been said of food and blood, and the classification that has been made, we shall be able to trace, to some extent at least, the steps in the physiological performance of the function of secondary assimilation, and to detect abnormal action. Since, in health, the supply of new material and the removal of old must be simultaneous—and since the diseases connected with the process of deposition of nutritious material are necessarily connected with, and modified by, primary excretion, we shall find it convenient to speak of these processes together.

When all the constituents of healthy blood, properly combined and in due proportions, are brought into contact in the capillary vessels with the tissues, there takes place a transfer of the albumen, probably in combination with oxygen and soda, into the tissues, where the soda combines with excrementitious acids formed by the oxygen uniting with the effete matter, and passes again into the blood-vessels, leaving the albumen deposited combined in some form with potash.

There are two classes of disease which seem to us to be dependent upon excess or deficiency of the mineral constituents of the blood. The one is developed in earlier life, during the growth of the osseous system; the other makes its appearance in more advanced years, when the demand for the earths especially is very much diminished. We refer to tuberculous and cancerous affections. In the wards of this hospital, during the earlier part of the winter, you have seen several cases of well-marked phthisis; and you will remember the treatment consisted of alkalies, the alkaline earths, lime especially, and cod-liver oil. Without entering into a minute examination of tuberculous matter, we may simply say that, in our opinion, the deposits depend mainly on an arrest of development, or organization, and the nutritious material passes into an excretable condition, without having subserved the purposes of the animal economy. In order to stimulate to organization, or to supply the formative forces, we need the mineral con-

stituents of the blood. The ferro-phosphate of lime has been recently recommended by Dr. A. H. Ramsay.

The opposite condition is one which has not occurred in these wards, since the hospital was opened.

There is a class of patients now under treatment, which furnish interesting subjects of study. I allude to those affected with ulcers. You have, no doubt, observed a marked difference in these cases, — some presenting exuberant granulations of a pale-red color, with a tendency to rise above the surface, discharging thick cream-colored pus, with little tendency to cicatrize. Another class presents exactly the opposite characteristics, — the surface depressed below the surrounding parts, ragged edges, minute dark points studding the bottom and sides, with the exudation of a dark brownish sanious discharge very acrid and irritating to the surrounding tissues. You will recognise, in the first of these classes, exaggerated secondary assimilation and primary excretion; in the second, defective secondary assimilation, and, as we shall see presently, an imperfect performance of the function both of primary and secondary excretion. These two classes of ulcers are readily distinguished, and, as it seems to us, require different treatment. In the first, there is a tendency to too rapid cell growth, the granulations are pushed out from the living vascular tissues by a rapid formation in the effused plastic material of new corpuscles; while the outer layer degenerates into pus, the quantity and quality depending upon the activity of the formative forces. Some of these cases are at times troublesome, but in these wards they are less frequently met with than those of the opposite class. In private practice, in patients free from any scrofulous or syphilitic taint, and especially where good diet and iron or other tonics are prescribed, you will almost always find this tendency to excessive granulation. The treatment required is mostly local. The application of nit. argent. to the surfaces, compression, and in some cases astringent washes. Little constitutional treatment is necessary, except, in cases where suppuration is extensive, a supporting diet, with mineral acids, which seem to us to favor oxidation. In the wards of this hospital there have been treated, during the last eight months, twenty patients for ulcers of legs alone. In addition to this, many of those who have been admitted for other dis-

cases have been affected with ulcers. Of this number, we believe not more than three or four have presented, at the time of entering the hospital, the characters described above.

The second class presents a deficiency, to as great an extent as the other does a redundancy, of granulations. The small points on the excavated surface seem to be almost stationary, the effused fluid containing comparatively few exudation corpuscles, and being deficient in the protein compounds. From some observations which we have made, we think that in most cases the reaction is either acid or less alkaline than healthy pus. There is here evidently a want of the formative force, and relatively a deficiency of the alkalies or alkaline earths; secondary assimilation is imperfect; the broken down tissue is not built up; the excrementitious acids, for want of bases to combine with, are not excreted, and by their presence they act upon the surrounding tissues, as we believe, in a manner similar to that which takes place, when acids and protein compounds are brought in contact out of the system. It is true that the chemical force seems, in many instances, to be suspended in living organisms, and yet it cannot be destroyed; it still exists, and must act, although modified by perhaps other forces acting with it, and for a while, in some processes, even masking it entirely. The *inorganic* atom, with all its properties, is present in the *organic*.

The treatment of these cases, as indicated by the condition pointed out, will consist in the use of the bases, both alkaline and earthy, in combination with iodine, chlorine, or such acids as are readily excreted without the aid of oxygen, together with a generous nitrogenized diet. As local stimulants, we may use a weak solution of the bichloride of mercury, the protochloride in powder, and, in cases where the edges are indurated, blisters have been recommended—and, which seems to us a better treatment, the use of adhesive strap and bandages. By this means, the use of bandages, we are able to affect the capillary vessels in such a manner, that the blood is passed more rapidly through them, a greater quantity of the nutritious material is brought in contact with the solids, and the nutritive process, consisting in the deposition of new and the removal of old matter, becomes much more active. In addition to the general and local treatment of which we have spoken,

rest, and an elevated position of the limb—if it be a lower extremity, as is the case in the patients before you—should be insisted on.

There is a class of ulcers which seems to partake of the nature of both those already noticed; the patient whom many of you saw in Ward 56, No. 2, will serve as an illustration. The granulations seemed to be formed rapidly, and yet the ulcers were not healing. If you examined carefully, you observed that the deep excavations did not present the appearance of healthy granulating surfaces. The little points were intensely red, but mixed with more or less grayish matter. They were painful; so much so, that the patient could get no rest day or night. There seems, in cases like this, to be an exaggeration of secondary assimilation and of primary excretion, or rather a too rapid destruction of the forming tissues, while the formative force itself is normal in quantity, but increased in intensity. The treatment in the case to which we have referred, you will remember, was cod-liver oil in full doses, with a drink composed of cit. potass., with an excess of the acid. The character of the ulcers was changed in a very short time, and the cure was completed in a few weeks.

A CORRESPONDENT asks for the best remedy for *Ascarides*. Will some one of our contributors give us an article on that subject?